

ABSTRACT

A power function is approximated over an applicable data interval with polynomials determined by means of a Chebyshev minimax approximation technique. In some cases, multiple polynomials may be used to approximate the function over respective ranges of the desirable interval, in a piecewise manner. The appropriate polynomial that approximates the power function over the range of interest is derived and stored. When the power function is to be applied to a particular data value, the data value is first evaluated to determine where it lies within the applicable interval. The constants for the polynomial associated with that range of the interval are then retrieved and used to calculate the power of that data value.